**Project Design Phase-II**

**Technology Stack (Architecture & Stack)**

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| --- | --- |
| Date | 10-07-2025 |
| Team ID |  |
| Project Name | Social Media App |
| Maximum Marks | 4 Marks |

**Technical Architecture:**

The **Social Media App platform** is designed with a **scalable 3-tier architecture**, including the presentation layer (frontend), business logic (backend), and data storage layer. The solution ensures **performance, security, real-time communication**, and ease of integration with third-party services (e.g., Firebase for media storage).

**Table-1 : Components & Technologies:**

| **S.No** | **Component** | **Description** | **Technology** |
| --- | --- | --- | --- |
| 1. | User Interface | Web-based interface for users to sign up, log in, post, chat, and explore | HTML, CSS, JavaScript, React.js, Bootstrap |
| 2. | Application Logic-1 | User authentication, post and story creation, profile management | Node.js, Express.js |
| 3. | Application Logic-2 | Real-time messaging, notifications, explore and discover | Socket.io, Node.js, React.js |
| 4. | Database | Stores user data, posts, stories, chats, and interactions | MongoDB with Mongoose |
| 5. | Media Storage | Stores images, videos, and story media securely | Firebase Storage |

**Table-2: Application Characteristics:**

| **S.No** | **Characteristics** | **Description** | **Technology** |
| --- | --- | --- | --- |
| 6. | Open-Source Frameworks | Frontend and backend frameworks | React.js, Node.js, Bootstrap, Tailwind CSS |
| 7. | Real-time Communication | Enables instant messaging and live updates | Socket.io |
| 8. | Scalable Architecture | 3-tier architecture with RESTful APIs and socket integration | SOA (Service-Oriented Architecture) |
| 9. | Security | JWT-based authentication and data encryption | JSON Web Token, HTTPS |

**References:**

 React.js Documentation

 Node.js Best Practices

 Socket.io Documentation

 [How to draw useful technical architecture diagrams](https://medium.com/the-internal-startup/how-to-draw-useful-technical-architecture-diagrams-2d20c9fda90d)